

form, completely concealing the head and body. The male bird, on the contrary, throws up his wings alternately, as if using them as shields, and displays much pugnacity. The latter differs in colour from the female, his plumage being dark brown, with bars of a lighter shade; the primaries and secondaries of the wings are very dark brown, barred with black; the crest is also of a much darker shade of grey than in the female; the bill and legs are of a bright orange-red colour. When seen together, the male appears small compared with the female. The latter utters a growling kind of scream; while the male makes a noise between a bark and a laugh, which is difficult to express in words, terminating in the oft-repeated note of *ōō*, *ōō*, *ōō*, *ōō*. The male bird is very lively, and readily attacks its aggressors.

The Kagu is becoming very scarce in New Caledonia,—one cause of its rarity being that numbers have been shot for the table, these birds being excellent eating. It is now difficult to procure them dead, and still more so to take them alive. They are only found in one part of the island, about ten miles distant from the settlement of Port de France, where a gentleman told me he offered a large reward to the natives to procure one to take with him to France, but without success. The birds sent to me had been in the possession of private individuals for some time. The Kagus are easily domesticated, and, when captured, are placed in the poultry-yard with the fowls, where they soon become tame; but, as a matter of precaution, one of their wings is usually clipped. These birds are only met with about small marshes or ponds, feeding on worms, slugs, &c. The nest and eggs have not yet been discovered, although every exertion has been and is still being made by some of my resident friends in New Caledonia for that purpose.

MISCELLANEOUS.

On Alternate Generation in the Annelida, and the Embryology of Autolytus cornutus. By A. AGASSIZ.

FROM the works of Oersted, Grube, J. Müller, Max Müller, and Keferstein, it appears that *Autolytus* presents the rare peculiarity among Annelides of a striking polymorphism, the males being indeed so different from the females that the two sexes have been described as belonging to distinct genera. There exists also in each species a third form, namely, the asexual form, which produces the sexual individuals by gemmation at its posterior extremity—the alternation of generations in these worms being now well established.

Mr. A. Agassiz has found in the harbour of Boston the *Autolytus* of which the males were described by Oersted, in 1843, under the name of *Polybostrichus setosus*, from Greenland. He has likewise observed, in the same locality, another species, to which he gives the name of *Autolytus cornutus*—a species which appears to be nearly related to the European *Autolytus* (*Sacconereis*) *Helgolandia*. The differences between the individuals of the two sexes are of the same nature as in the European species. The females, at the moment of their detachment from the organic individuals, possess no ovigerous

sac. This sac is soon formed, and the ova are deposited in its interior. The embryos are rapidly developed, and their escape from the sac appears to cause the death of the female; at least, Mr. Agassiz has never met with females after their embryos have escaped. The embryos at the moment of issuing from the sac have a triangular outline, their body diminishing rapidly towards the posterior extremity. The development of these embryos presents an example of the most simple evolution observed among the Polychætic Annelides.—*Journ. Bost. Soc. Nat. Hist.* viii. p. 392.

Note on the Reproduction of the Larvæ of Insects.

By PROFESSOR NICOLAS WAGNER, of Kasan.

Professor N. Wagner has discovered a fact in the natural history of insects which at first sight appears incredible; but, as it is supported by preparations, the inspection of which by Prof. de Filippi completely convinced him of the truth of Prof. Wagner's observations, a short notice of the singular results arrived at by the latter cannot but be acceptable to our readers.

In June 1861 Prof. Wagner found, under the bark of a dead elm in the vicinity of Kasan, some whitish apodal worms, the organization of which proved them to be larvæ of insects. Each of these larvæ was filled with smaller larvæ. This was nothing remarkable, as cases of parasitism are well known to be exceedingly frequent among insects. But Prof. Wagner was justly struck by the fact that the included larvæ were perfectly identical, even to the smallest details, with the enveloping larvæ. By this identity he was led to assume that the included larvæ represented a second generation produced by the enveloping larvæ. This would therefore be a case of alternation of generations even more surprising than that of the Aphides.

Improbable as this interpretation may appear at the first glance, it has several circumstances in its favour. Amongst these the principal are the following:—

1. It seems impossible to assume that a parasitic larva can present an organization perfectly identical with that of the organism which nourishes it.

2. The parasites which deposit their eggs in a single insect, deposit the whole at once, and these eggs are simultaneously developed. But Prof. Wagner found in one and the same enveloping larva included larvæ presenting the most various phases of development.

3. Parasitism is an accidental phenomenon, whilst all the larvæ observed presented included larvæ at a certain degree of development.

4. The size of the eggs of a given species is constant, whilst the reproductive bodies which here play the part of eggs exhibit very considerable variations of size.

5. In the interior of the larvæ of the second generation a third generation is produced, precisely similar to the first two.

Professor Wagner has observed three other species of the same genus, all presenting this singular mode of reproduction. The perfect insects are still unknown. From the appearance of the larvæ, they seem to belong to the order Diptera.—*Siebold und Kolliker's Zeitschrift*, 1863, p. 544.